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Investing in Our Future

A Report of our Progress on Environmental Action

“My goal is to deliver to Canadians, now and in the future, the kind of environment they want and deserve, the kind of environment which is the foundation of good health, prosperity and a source of national pride for all.

Reaching that goal has never been more challenging - or rewarding.”

Christine S. Stewart



Where we stand

Over the past two decades, there have been improvements to the quality of Canada's environment. For example, water quality in the Great Lakes has improved so that populations of birds like the osprey are recovering and fish species are returning.

In this same period, Canada's population has grown by 5.5 million people and our economy (GDP) has grown by more than 60%. Pressures on Canada's environment and their effects on human health are mounting. Canada is vulnerable to global environmental problems such as climate change, the loss of biodiversity and the

accumulation of toxic chemicals in the North. Weather-related disasters are occurring with increasing frequency.

The more we study the environment, the better we understand the issues. A recent Health Canada report indicates that a range of common air pollutants are causing chronic illnesses and premature deaths among Canadians.

Where we're going

How do we guarantee the best environmental future for Canadians? How do we best protect Canadians from environmental extremes?

As Canada's Minister of the Environment, I see the need to pursue four clear environmental priorities.



Canadian Environmental
Assessment Agency

Agence canadienne
d'évaluation environnemental



Environment
Canada

Environnement
Canada

Canada

These priorities are based on sound scientific research. They are also priorities that have come forward in meeting after meeting with Canadians. They are: clean air, clean water, climate change and nature conservation.

Over the past year, the Government of Canada has made many important commitments and reached agreements that will shape environmental protection into the next millennium.

- Under the Kyoto Protocol, we made a firm commitment to reduce greenhouse gas emissions and respond to the threat of climate change.
- Our harmonization agreement with the provinces and territories creates a framework for environment ministers to work together on environmental issues.
- We have introduced a renewed *Canadian Environmental Protection Act* in the House of Commons.
- Environment Canada's Millennium Eco-Communities Initiative will build on our strong tradition of working with people and sharing our science to achieve environmental results.
- We have launched Phase III of the St. Lawrence Action Plan, a major initiative to conserve a valued ecosystem.

We are also achieving results through other activities, such as:

- delivering the weather services Canadians need to protect their safety and property;
- ensuring environmental assessments are a cornerstone of our approach to sustainable development;
- investing in science to help us monitor and understand environmental changes and their risks to people's health and well-being.

Getting there together

But government cannot do the job alone.

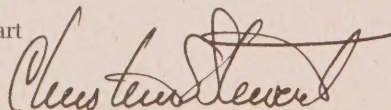
Our air, our water, our nature and our climate are held in common by the community that is Canada. As caring citizens, we all share a personal sense of responsibility for the environment.

We need action by every sector and at every level to set goals, to work together and to fulfill our respective responsibilities. That means government, industry, communities and individuals. That is what achieves results. That is what works.

Having worked in international development before entering government, I know the power of the grassroots. I believe in the ingenuity and commitment of Canadians to take local action for the sake of a cleaner environment.

I invite you to read on and discover the many successes we have achieved together.

Christine S. Stewart



Minister of the Environment

August 1998

Millennium Eco-Communities Initiative



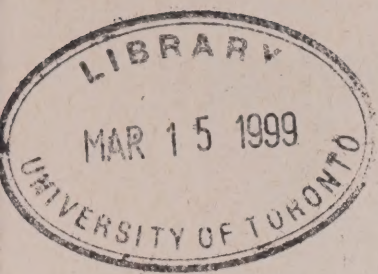
Environment Canada's Millennium Eco-Communities Initiative is helping communities set local environmental goals and get to work on them. Everyone can get involved, from municipalities and local industries to schools, service clubs and local environmental groups.

The Internet is the "community centre" for the Initiative. Communities register their action plans at our web site and track their progress. They find out what other communities are doing and share their own environmental know-how. They also get access to scientific data, an information tool kit and answers to frequently asked questions.

In addition, the Government of Canada will publicly recognize and honour communities that achieve their targets. These communities will be awarded the Millennium logo by the federal government's Millennium Bureau.

The Millennium Eco-Communities Initiative builds on the successes of EcoAction 2000 (formerly Action 21). EcoAction 2000 provides funding to non-profit groups for community projects that support our environmental priorities and encourages individual and collective action in support of sustainability.

Visit "Millennium
Eco-Communities
on the Green Lane" at
<http://www.ec.gc.ca/eco>.



Clean Air

We have come a long way in improving air quality in Canada.

But air pollution continues to take its toll on Canadians' health and our productivity as a nation.

Thousands of Canadians die prematurely each year from air pollution. Those most at risk are the elderly, children and people already suffering from respiratory problems. Now new scientific research shows there may be no safe levels of human exposure to particulate matter or ground level ozone, the components of smog.

The Government of Canada is responding to these challenges. We are committed to clean air and are working steadily to improve air quality in Canada.

Fighting pollution at the fuel pump

The Government of Canada has passed new regulations to reduce the level of sulphur in diesel fuel and the level of benzene in gasoline. These regulations will deliver real improvements in air quality by reducing the amount of benzene released into the air by 3 kilotonnes per year and reducing particulate matter by 5 kilotonnes.

Smog alert

In the summer of 1997, Environment Canada

introduced the country's first smog forecast in southern New Brunswick. Two-day forecasts were established twice daily.

The forecasts also advised people on ways they could lessen the impact of

poor air quality on their health and even solve air quality issues in their communities. Plans are under way to introduce smog forecasts in other areas.

Creating partnerships

In November 1997, the federal departments of Environment, Natural Resources and Transport launched Phase 2 of the Federal Smog Management Plan.

This initiative lets industry and governments at every level work together to reduce smog. It will help us get better performance from cars and trucks, improve the quality of transportation fuels, reduce the over-use of fossil fuels and further improve industrial processes.

Protecting the ozone layer

In 1998, Canada was the first country to ratify new amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer. These amendments will make trade in banned ozone-depleting substances much tougher.

The amendments will also accelerate the elimination of methyl bromide, an ozone-depleting pesticide.

We're already on the right track. In 1997, Canada reduced its consumption of methyl bromide by 29%. Since we first signed the Montreal Protocol in 1987, new supplies of ozone-depleting substances in Canada have fallen from 27.8 kilotonnes to 0.8 kilotonnes.

Atmospheric measurements indicate that the depletion of the ozone layer is slowing and it should begin to recover early in the next decade.

Fighting acid rain

One of our greatest successes has been the fight against acid rain. Since 1980, sulphur dioxide emissions in Eastern Canada - which directly cause acid rain - have dropped by more than half. But still more progress can be made as acidity in eastern lakes remains too high.

Looking ahead

The Government of Canada is taking action on air quality in the areas where we're most effective. We're creating standards and regulations. We're sharing scientific information. We're working with domestic and international partners. And we're moving ahead on climate change and acid rain.

Here are a few examples of our activities:

- action on vehicles and fuels - particularly new regulations on sulphur in gasoline, which is a major source of health threatening pollutants;
- working with the provinces and territories to establish Canada Wide Standards for levels of ground level ozone, particulate matter and benzene;
- a federal action plan to reduce emissions of particulate matter and toxic metals from heavy oil and coal-fired power plants by more than 100,000 tonnes each year;
- negotiating an ozone annex to the Canada-U.S. Air Quality Agreement to keep pressure on the U.S. to reduce air pollution;
- negotiation of a post-2000 Acid Rain Strategy among Canadian governments.

But our greatest pride is our partnerships with other governments, businesses and communities. Canadians are coming up with innovative ideas for cleaning the air. We believe in the power of the individual and we will continue to make it possible for people to act locally for the greater benefit of all.



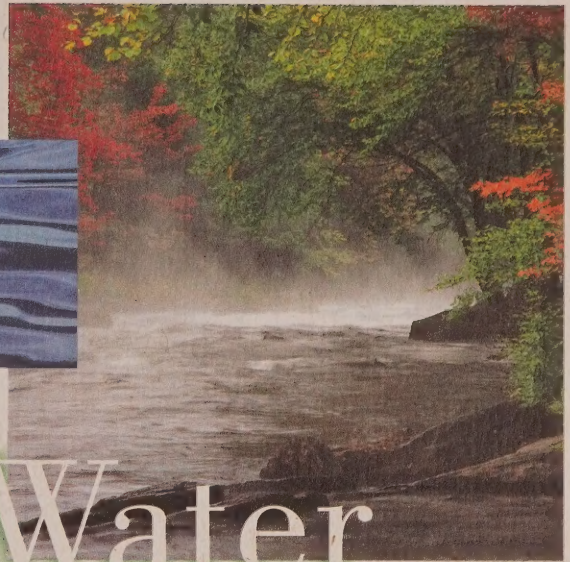
People Make it Happen

Many Canadian businesses have discovered that reducing their emissions of air pollutants doesn't only make good environmental sense - it makes good economic sense too. By using a \$500 paint spray gun, auto body shops can cut their emissions of volatile organic compounds - one of the main ingredients in smog - by 30 per cent, and cut their paint costs by up to \$11,000 a year.



EC Phone Home

A sun photo spectrometer designed by Environment Canada (EC) staff and flown on space shuttle missions has been used to measure ozone in the upper and middle atmosphere. A second EC instrument, the Brewer Ozone Spectrophotometer, provided the first proof that ozone depletion leads to increased UV levels.



Clean Water

The abundance,
power and beauty
of fresh water have
always been an
important part of
Canadian life and
identity.

While Canadians enjoy one of the highest standards of clean water in the world, pollution remains a major problem in some of our waters. The Government of Canada wants to ensure a healthier environment and healthier Canadians by making clean water a priority.

Industry action

Improving water quality is not something the federal government can do alone. We need the help of Canadian businesses. They have responded to this challenge and helped to make the Accelerated Reduction and Elimination of Toxics Program (ARET) a success. This program encourages industry to reduce the release of toxic substances into the environment. Overall releases of toxics included in the ARET program have dropped 27% from 1995 levels.

Targeting toxics

Environment Canada is focusing on virtually eliminating the 12 most toxic substances – including PCBs and DDT – through the *Canadian Environmental Protection Act*. Internationally, Canada recently signed an agreement with European and North American

countries to limit emissions of persistent organic pollutants. Canada is playing a leadership role in negotiating a global agreement to restrict their use.

Working with the U.S.A. and Mexico, we completed the first phase of a North American Regional Action Plan on Mercury in October 1997. The plan seeks to reduce the amount of mercury discharged into the water as a result of human activity and bring high mercury levels back into line with naturally occurring levels.

Cleaning Canada's pollution hot spots

There's no doubt that Canada has made progress in reducing water pollution. We need only look at Lake Erie, once considered dead and now home to a commercial fishery.

Environment Canada is cleaning up pollution

“hot spots” across the country with its Ecosystem Initiatives program. This program promotes environmental action through partnerships, cooperation and the sharing of information. Here are some of the results:

- The St. Lawrence Action Plan has reduced toxic effluents from 50 priority industries by 96 per cent since 1988.
- Under the Great Lakes Action Plan, the harbour in Collingwood, Ontario, has been restored. Alkyl-lead was reduced by 85 per cent, and dioxin and furans entering the Great Lakes have been reduced by 66 per cent.
- The Fraser River Action Plan led to a 90 per cent reduction in the release of toxic wood preservative chemicals.
- The Atlantic Coastal Action Program has led to the diversion of over 500 tonnes of waste, and sewage treatment has been introduced and/or upgraded in four participating communities.

Keeping watch

Making regulations is one part of our job. Enforcing them is another. Each year, Environment Canada conducts numerous inspections to ensure industry is obeying regulations for pulp and paper, dioxins and furans, and the export and import of hazardous wastes, to name a few.

In one case, a company was found guilty of violating the pulp and paper regulations and ordered to pay a fine of \$750,000 - the largest fine to date in Canada under that regulation.

Looking ahead

Here are some of the initiatives Environment Canada is working on to ensure clean water:

- strengthening the *Canadian Environmental Protection Act* to make pollution prevention a national goal, improve enforcement, and toughen the rules on toxics, pollutants and other wastes;
- broadening participation in ARET to further reduce the flow of toxic substances from industry;
- working with the provinces and territories to set Canada Wide Standards for levels of petroleum hydrocarbons, mercury, dioxins and furans;
- devising a Federal Freshwater Strategy - an integrated approach to water management;
- developing a comprehensive federal policy on water export.



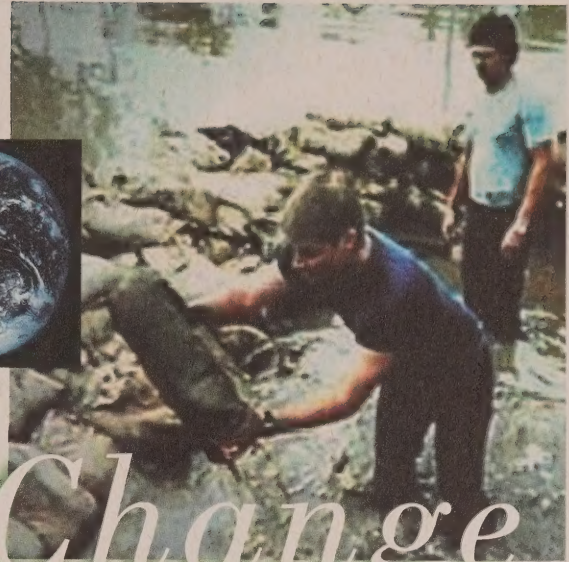
People Make it Happen

The Rennies River in St. John's, Newfoundland, was polluted and its tributaries dammed, ditched, or buried. That is, until local citizens got to work. Through community spirit and creative fundraising, the Quidi Vidi Rennies River Development Foundation cleaned up the river and established walking trails, a marsh observation deck and a freshwater education centre. Today, the Rennies River boasts the largest brown trout population in the world, and Atlantic salmon is being reintroduced.



Beluga Population Recovering

Beluga whales in the St. Lawrence River have been paying the price of high pollution levels. The St. Lawrence Action Plan was put in place 10 years ago to reduce concentrations of contaminants in the River. Now there is evidence that the beluga population has stopped declining and may actually have increased to 800 from 500 whales.



Climate *Change*

Climate change is perhaps the greatest environmental, economic and health challenge Canada is facing. It is a global problem and Canada, as a large northern country, is particularly vulnerable.

We must reduce the greenhouse gas emissions which cause climate change. That means changing the way we produce and use energy, do business and get from one place to the other.

as part of a dynamic process to develop a National Implementation Strategy by the end of 1999. The national process will focus on options for Canada to achieve its Kyoto commitments as well as the identification of early actions to reduce emissions in the short term.

The Kyoto Protocol

In December 1997, representatives from Canada and 160 other countries met in Kyoto, Japan, and agreed to a Protocol that calls for further reductions in greenhouse gas emissions. Canada has committed to reduce its emissions to 6 per cent below 1990 levels between 2008 and 2012.

We are directing our efforts to reduce greenhouse gas emissions. We're working with the provinces and territories, industry, environment groups, academics and a wide cross-section of Canadians

Reductions at a lower cost

Internationally, Canada and other countries are exploring how an international emissions trading regime and other cooperative mechanisms to reduce greenhouse gases could work. These cooperative mechanisms could help Canada meet its Kyoto commitments at a lower cost and still achieve the same benefits for the atmosphere. Emissions trading is one potential way to unleash private-sector creativity and find the best solutions to the climate change challenge.

Federal support

The Government of Canada has backed up its commitment to climate change with funding. The 1998 budget committed \$150 million over three years to climate change.

The money will go to:

- developing a National Implementation Strategy;
- carrying out public education and encouraging early action by Canadians;
- identifying best practices and mechanisms, such as emissions trading, to reduce the impact of climate change and improve air quality;
- advancing our understanding of climate science and impacts and identifying strategies for adaptation;
- beginning quick-start pilot projects; and
- engaging developing countries in climate change work.

These funds are in addition to the more than \$100 million that the federal government already spends each year on the issue.

Green power

The Government of Canada is doing its share to reduce greenhouse gas emissions in federal operations. We are on target to reduce emissions by 27% from 1990 levels by 2005.

In November 1997, Environment Canada became the first federal department to sign a "green" power agreement. Our offices in Alberta will receive two million kilowatt-hours of wind-generated electricity, and we will reduce carbon dioxide emissions by 2000 tonnes annually for the next 10 years. We're also planning to work with electricity suppliers to make green power available to the public.

Understanding the future

Even if the world meets the commitments made in Kyoto, it is becoming increasingly clear that the global climate will change. As a northern country, Canada is particularly vulnerable.

Environment Canada has released the *Canada Country Study*, a first-ever look at how climate change affects us socially, biologically and economically and how we can adapt to these changes.

On the global scene, we are talking to other countries about coordinating international adaptation measures.

Looking ahead

The Government of Canada will make certain that Canada moves toward our global commitments by encouraging early action and giving Canadians the information they need to make it happen.

We're committed to reducing Canada's greenhouse gas emissions. We've put resources in place to help us get there. We are counting on the innovation and drive of all levels of Canadian society – individuals, communities, businesses and government – to help us reach our target.



Energy Smarts Pay Off for Oil Company

A major oil company has reduced its energy use by more than 14 per cent per unit of production and cut greenhouse gas emissions by more than 1000 kilotonnes per year – impressive savings when you consider the petroleum products subsector is the second largest industrial user of energy.

To achieve these gains, the company shut down older, less efficient service stations and refineries and folded their activities into more modern facilities. It also purchased heat recovery equipment and improved the way it manages and uses electrical energy.



Nature

It is easy for Canadians
to think of an image that
sums up our country's
natural beauty. It may
be a local wetland or
Canada's distant North.

It may be a loon, a
salmon or a polar bear.
It may be a plant native
only to our shores.

This great diversity is part of the legacy we will leave to our children. But this heritage is threatened. The Government of Canada is moving forward to conserve and protect the variety and diversity of species in Canada so that our children may enjoy a country as rich in nature as the one we enjoy today.

Conserving species and habitat

Environment Canada protects over 400 species of migratory birds and 11 million hectares of habitat. Conserving habitat is the key to maintaining healthy populations of wildlife and helping species at risk to recover.

These are the goals behind the North American Waterfowl Management Plan. This major

conservation initiative brings together individuals, organizations and agencies from Canada, the U.S. and Mexico to conserve wetlands and increase waterfowl and wetland bird

populations. In 1997, 61,752 hectares of key wetland habitat were protected across Canada for a total of 680,000 since the program began in 1986. The result is that the populations of most prairie waterfowl species are now either stable or increasing. By 2001, a total of 2.1 million hectares will be protected.

Communities participating in the Atlantic Coastal Action Program have already protected over 2,000 hectares of habitat including wetlands, streams, stream banks and vital coastal salt marshes.

Under the St. Lawrence Action Plan, 12,000 hectares of natural habitat have been protected and recovery plans set up for 27 threatened or vulnerable species. This action plan was extended in 1998.

Quebec's 11,952-hectare Lac St Pierre wetlands was designated a wetland of international importance in May 1998.

Migratory bird regulations

On September 1, 1997, the modified Migratory Bird Regulations banned the use of lead shot for hunting most migratory birds in wetland areas. This move will prevent animals from being poisoned by swallowing lead shot. The ban will apply to all areas of the country in September 1999.

Inspections

Canada is combatting the illegal international trade in endangered species of wildlife and products made from them. From May 1996 to March 1997, we conducted 1,411 inspections leading to significant seizures and prosecutions.

Looking ahead

Environment Canada is committed to protecting habitat and species. Our plans include:

- introducing endangered species legislation;
- finalizing a strategy with the provinces and territories to implement the National Accord for the Protection of Species at Risk;
- launching the Georgia Basin Ecosystem Initiative to focus sustainability efforts;
- developing an ecosystem initiative for northern Canada;
- developing a stewardship program to increase the amount of habitat for wildlife in Canada; and
- increasing protected habitat outside of national parks by 6 per cent by the year 2000.

People across Canada are already doing their part to conserve nature by joining in projects in their communities. The Government of Canada applauds their work and wants to encourage more communities and businesses to become environmental stewards. For our part, we will continue to provide the funding, legislation and scientific information necessary to preserve the diverse natural world that is our fame and our future.



People Make it Happen

In 1928, a homesteader in Porcupine Plain, Saskatchewan, became involved in forestry and forest products. Over the years, he carefully harvested his trees, so that today, his forest remains in full growth. The homesteader passed away in 1997, but his forest remains one of the few old growth forests left in the area.

Saving Seabirds

Chronic oil pollution in the waters of Canada's continental shelf, especially along



Newfoundland's southeast coast, is killing tens of thousands of seabirds every year. Environment Canada, in partnership with the Canadian Coast Guard and Transport Canada, are working to stop the practice of pumping oily waste and fuel into the ocean. Through increased aerial surveillance, enforcement, shoreline monitoring, oil sample collection, and public education, many of these incidents are being prevented.



Weather

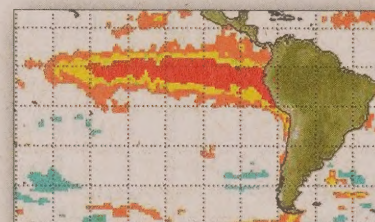
From regular
forecasts to the
tracking of extreme
weather events, the
Environment
Canada weather
service provides
information
Canadians can
depend on.

Your foul-weather friend

In the past 12 months, the weather service issued over 1.1 million weather forecasts and over 14,000 weather warnings. Nine out of ten Canadians consult our weather forecasts each day and use the information to plan their lives. The agriculture and forestry industries depend on regular weather information as well. However, it is during extreme weather events that Canadians most rely on the service to safeguard their property, and in some cases, their lives.

Recent events such as the floods in the Saguenay region and the Red River Valley, the snowstorms in Victoria and the ice storms in Eastern Canada have highlighted for many Canadians the critical role of the weather service in ensuring public safety.

During the 1998 ice storm in Eastern Canada, visitors to Environment Canada's Green Lane web site increased by over 50 per cent, bringing the number of daily hits to 300,000. At the same time, Environment Canada weather and climate officials kept people informed through over 800 media interviews.



Confused about El Niño and La Niña?

These oceanographic disturbances are being blamed for everything from droughts to torrential rains to bad-tempered dogs. Canadians can get the facts by visiting the weather service's national El Niño and La Niña web sites. They offer the best scientific information on the current and past El Niños and La Niñas, plus a look at how the disturbances will affect all regions of Canada.

Learn about El Niño and La Niña at
<http://www1.tor.ec.gc.ca/elnino>

Tune in to weather news

We are committed to strengthening the weather service's ability to accurately monitor and predict extreme weather disturbances and to keep Canadians informed.

One example is the WeatherAlert system, which we have field tested in some Canadian cities. This news service broadcasts a scrolling message about possible severe weather across the bottom of TV screens.



Early warning systems

By installing new systems and equipment, Environment Canada is increasing our ability to detect and predict severe weather such as heavy rain, thunderstorms, hail and tornadoes.

Activities include:

- the \$9.5 million Canadian Lightning Detection Network, composed of 81 sensors to detect the occurrence and position of lightning; and
- 26 Doppler radars to be installed across Canada over the next six years - a significant jump from the three currently in use. They will track storms and weather systems to give more accurate severe weather forecasts.

Looking ahead

Environment Canada is studying the most effective way to meet Canadians' weather needs. In particular, it is broadening the effort to encompass all aspects of atmospheric environmental prediction - weather, hydrology, climate, ice and air quality. Watch for new activities to move the weather service forward into the next millennium.

Environmental Assessments

Environmental assessments (EAs) identify possible environmental impacts before they occur so that corrective measures can be taken at the outset, minimizing damage and expense.

EAs in action

The *Canadian Environmental Assessment Act* is the heart of environmental assessment work and is administered by the Canadian Environmental Assessment Agency. Over 5,700 environmental assessments were conducted under the Act in the past year. Through these assessments, federal environmental objectives can be better reflected in decisions.

In the last year, five independent EA panels have also reported. These panels are created whenever large scale, high impact projects or those in extremely sensitive ecosystems must be assessed. Their recommendations had benefits for the projects themselves and the environment.

The Panel on Uranium Mines in Northern Saskatchewan, for example, recommended that project approvals be accompanied by conditions on long-term monitoring, workers' health and safety, water quality, and the disposal and transportation of materials.

The Agency is continually working to improve the efficiency and effectiveness of EAs. Upcoming priorities include harmonizing activities with other levels of government, introducing cost recovery measures and updating the legal framework.

Investing in Our Future can be ordered from Environment Canada's Inquiries Centre at **1-800-668-6767**. For more information about Environment Canada activities, please visit our Green Lane web site at www.ec.gc.ca. ISBN 0-662-27111-4 Catalogue no. EN21-183/1998E Exemplaires en français disponibles également.



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